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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,981	07/29/2003	Christopher R. Hornberg	390-010852-US (PAR)	7137

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EXAMINER

GHYKA, ALEXANDER G

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/628,981

Applicant(s)

HORNBERG ET AL.

Examiner

Alexander G. Ghyska

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-17 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

ALEXANDER GHYKA  
PRIMARY EXAMINER

AO 2812  
*Alex Ghyska*

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

Applicants' response of April 1, 2005 has been considered and entered in the record. Applicants' arguments have been considered, but they are not persuasive for the reasons as discussed below.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 2812

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoddard et al (US 6,207,937).**

The present Claims generally require a method of minimizing thermal reactor temperature overshoot and stabilization time during a boat push comprising the steps of: reducing a temperature setpoint to a minimum value and as the temperature in the reactor begins to increase during the boat push, ramping the temperature back to an original setpoint.

Stoddard et al disclose a temperature control system for a thermal reactor, and disclose a processing recipe which comprises set-point temperatures, temperature process durations and temperature ramp rates which are set by the user. See column 1, lines 45-55. Moreover, Stoddard describes the problems of temperature over-shoot. See column 3, lines 25-30 and Figure 1. Stoddard et al also disclose spike thermocouples and profile thermocouples which are located in different zones of the reactor and read on present Claims 2 and 8-12. See column 7, lines 30-45 and column 9, lines 35-55. Furthermore, Stoddard discloses reducing overshoot and discloses that the ramp-rate of the modified ramp function may be reduced as it approaches the temperature set-point value (as required in present claims 3 and 5-7) in order to improve temperature control and avoid wafer slip. See column 15, line 60 to column 16, line 10.

Therefore, Stoddard et al disclose all of the presently claimed limitations with the exception of reducing a temperature setpoint to a minimum value.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to choose a minimum set-point as required by the present claims, as Stoddard discloses that it is known to choose a set point, and the selection of a setpoint as required by the present claims is simply a matter of optimization which would readily be apparent to one of ordinary skill in the art. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See *In re Aller* 105 USPQ 233. Therefore, a *prima facie* case of obviousness is established.

#### ***Response to Applicants' Arguments***

Applicants' argue that Stoddard (6,207,937) is commonly owned and pursuant to 35 USC 103(c), Stoddard is not prior art for purposes of 103(a). 35 USC 103(c) is limited to references which qualify as prior art under subsections (e), (f) and (g) of section 102. The Stoddard reference qualifies as prior art under subsection (b) of 35 USC 102, and therefore 35 USC 103(c) does not apply. Therefore, the rejection of record is maintained.

#### ***Allowable Subject Matter***

Claims 13-17 are allowed.

The cited prior art does not disclose or suggest reducing current setpoints for each zone; monitoring each zone of the thermal reactor to determine a minimum temperature for each zone; ramping the reduced current setpoints back to an original setpoint as required by the afore mentioned claims.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Thursday during general business hours.

Art Unit: 2812

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571)272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG  
June 15, 2005

ALEXANDER GHYKA  
PRIMARY EXAMINER

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